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Portable DNA Concept Progresses

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Portable DNA Concept Progresses

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Almost 18 months after penning a thesis on the potential worth of portable DNA testing in determining some forms of immigration status, Evelyn Sahli will see her vision begin to become a reality.

Sahli, a 2009 graduate of the Naval Postgraduate School Center for Homeland Defense and Security, researched the prospect of portable DNA testing in both her thesis and in a Technology for Homeland Security course paper.

Department of Homeland Security officials said in February 2011 that it will launch a pilot program to begin this summer that will use portable hand-held DNA devices to verify genealogical kinship among immigrants seeking asylum or refugee status.

During her career, Sahli has traveled to Africa, the Middle East and Asia on missions to interview refugees and derivative asylum seekers. The process involves verification of identity and, often, family relationships. Although most applicants are now fingerprinted, documents traditionally used to prove familial relationships, such as birth certificates and other forms of identity, are lacking or suspect in most locales where refugees reside.

"DNA is immensely valuable to the homeland security enterprise," Sahli said. "It has proven value in establishing biological relationships and detecting and deterring crime. It is a perfect tool for combating immigration fraud and preventing trafficking in humans, especially children. DNA technology can help to detect criminals and terrorists, facilitate inter-agency information sharing, improve customer service, and save resources."

Sahli sees potential for the device to address criminal and other homeland security challenges, especially the rising problem of human trafficking, something she grew increasingly concerned about when reviewing cases in which paternity was not clear.

"It seemed like too many times we were sitting with a 13-year-old girl in front of us whose father had petitioned for her to come to the United States," she said. "The girl didn't know her alleged father, or anything about him. I couldn't be assured that it wasn't human smuggling for sex or other forms of slavery."

With the portable device developed by NetBio of Boston, a DNA sample can be processed in less than one hour, compared with days or weeks when processed by a laboratory, according to the company's website. No trained technician is needed and the sample comes from a swab of the inner cheek.

Sahli became interested in DNA technology about eight years ago because of a murder case involving a college student in the Portland area. No fingerprints were left at the crime scene, but extensive DNA testing finally led to a Turkish man. He had married an American student and sought permanent residence in the United States. If not for the DNA testing in connection with the criminal investigation he could have possibly completed the residency process without detection, Sahli recalled.

"This was something that I had seen a clear need for over the years, and jumped at the chance to play a role," she said.

DHS officials enlisted Sahli's assistance on the topic beginning in 2008, when she was Chief of Policy and Regulation Management for Domestic Operations at USCIS Headquarters in Washington, D.C. She facilitated



working groups to provide input to DHS' Science and Technology Directorate on what USCIS needed from a potential portable screener.

"At the same time that I moved from the Refugee Affairs Division to Domestic Operations, I was accepted into the CHDS Masters degree program," she said. "This meant that I was able to tie all of these issues together, merging real-life with academics. Without CHDS, I would have never had so many doors opened to me to pursue this subject."

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